



PLEASE STAMP AND RETURN TO SHOW RECEIPT OF:

In re Application of:

Chester L. SCHULER et al.

Appln. No.:

10/072,728

Examiner: Ming-Hun Liu

Filed:

February 7, 2002

Art Unit: 2675

Confirmation No.: 2651

· Title:

INTERFACE DEVICE WITH TACTILE RESPONSIVENESS

1. Information Disclosure Statement Transmittal;

2. Information Disclosure Statement;

3. PTO/SB/08 (1 of 2) with copies of 44 references provided on enclosed CD;

4. PTO/SB/08 (2 of 2);

5. Check in the amount of \$180.00 to cover fees; and

6. One postcard.

Dated: July 9, 2004

Atty. Docket No.: IMMR-092/02US

211204 v1/RE 4\$YS01!.DOC



Client/Matter No.: 302101-2257

Atty/Secy: EBM:lhd

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Attorney Docket No. IMMR-092/02US

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

hore application of Chester L. SCHULER et al.

Serial No.:

10/072,728

Examiner:

Ming-Hun Liu

Filed:

AUG 2 0 2007

February 7, 2002

Art Unit:

2675

Confirmation No.: 2651

For: INTERFACE DEVICE WITH TACTILE RESPONSIVENESS

U.S. Patent and Trademark Office 220 20th Street South Customer Window Crystal Plaza Two, Lobby, Room 1B03 Arlington, VA 22202

INFORMATION DISCLOSURE STATEMENT TRANSMITTAL

Enclosed is an Information Disclosure Statement and accompanying Form PTO/SB/08A for the above-identified patent application.

- [] In accordance with 37 C.F.R. §1.97(b), no additional fee for submission of the IDS is required.
- [x] In accordance with 37 C.F.R. §1.97(c), also enclosed is:
 - [x] the fee of \$180.00 as set forth in 37 C.F.R. §1.17(p); or
 - [] a statement as specified in 37 C.F.R. §1.97(e).
- [] In accordance with 37 C.F.R. §1.97(d), a statement as specified in 37 C.F.R. § 1.97(e) and the fee of \$180.00 as set forth in 37 C.F.R. §1.17(p) are also enclosed.
- [x] Check in the amount of \$180.00 for the total fee is attached.
- [x] A return receipt postcard is also enclosed.
- [] Please charge \$___ to Deposit Account No. 50-1283 for the total fee. This paper is being submitted in duplicate.

Attorney Docket Number: IMMR092/02US
Application Serial No.: 10/072,728

Page 2

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§1.16, 1.17, and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 50-1283.

Dated: <u>July 9, 2004</u>

Cooley Godward LLP ATTN: Patent Group One Freedom Square Reston Town Center 11951 Freedom Drive Reston, VA 20190-5656 Tel: (703) 456-8000

Tel: (703) 456-8000 Fax: (703) 456-8100 Respectfully submitted, COOLEY GODWARD LLP

By:

Erik B. Milch Reg. No. 42,887

211203 v1/RE 4\$YR01!.DOC Attorney Docket No. IMMR-092/02US

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

of re application of Chester L. SCHULER et al.

Serial No.:

10/072,728

Examiner:

Ming-Hun Liu

Filed:

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U.S. Patent and Trademark Office 220 20th Street South Customer Window Crystal Plaza Two, Lobby, Room 1B03 Arlington, VA 22202

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §1.97(c)

In accordance with the duty of disclosure set forth in 37 C.F.R. §1.56, Applicant(s) hereby submits the following information in conformance with 37 C.F.R. §§1.97 and 1.98.

- [x] Pursuant to 37 C.F.R. §1.98, a copy of each document cited in the attached Form PTO/SB/08A (1 of 2) is enclosed.
- [x] No copies of the publications listed on the attached Form PTO/SB/08A (2 of 2) are being provided pursuant to 37 C.F.R. §1.98(d) because the publications were previously cited by or submitted to the Office in prior Application Serial Nos. 09/253,392; 08/434,176 (U.S. Patent No. 5,559,412); 08/076,344 (U.S. Patent No. 5,414,337); 07/783,635 (U.S. Patent No. 5,220,260); and/or 08/585,198 (U.S. Patent No. 5,889,670) to which the above-identified application claims priority under 35 U.S.C. §120.

[]	No copies of any U.S. patents or U.S. patent application publications listed on the attached Form PTO/SB/08A are being provided pursuant to 37 C.F.R. §1.98 because this application was filed after June 30, 2003.
[]	Publication(s) listed on the attached Form PTO/SB/08A were cited in a foreign search or examination report corresponding to application serial no. and mailed on
n	Enclosed is a copy of a non-English publication(s). Pursuant to \$609 of the

M.P.E.P., Applicant submits the attached foreign search or examination report, which cites such non-English language publication(s).

Attorney Docket Number: IMMR092/02US
Application Serial No.: 10/072,728

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Page	2

[]			sed is a copy of a non-English publication(s) English language ation (copy enclosed) claims priority from this non-English publication.						
[]			sed is an explanation of non-English publication(s) for which an English tion is not available.						
[]			sed is an English translation of non-English publication(s) cited in the ed Form PTO/SB/08A.						
[]	End	closed is a	copy of pending patent Application Serial No						
		nation Dis the maili	closure Statement is filed after the period specified in 37 C.F.R. § ng of:						
	[x]	a final	action under 37 C.F.R. §1.113;						
	[]	a noti	ce of allowance under 37 C.F.R. §1.311; or						
	[]	an act	ion that otherwise closes prosecution in this application.						
In	accorda	nce with 3	7 C.F.R. §1.97(c) also enclosed is:						
	[x]	Fee u	nder 37 C.F.R. §1.17(p) in the amount of \$180.00; or						
	[]	Staten	nent as specified in 37 C.F.R. §1.97(e):						
		()	Each item of information contained in the Information Disclosure Statement cited herein was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing date of the Information Disclosure Statement; or						
		[]	No item of information contained in the Information Disclosure Statement submitted herewith was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned, having made a reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to any individual designated in 37 C.F.R. §1.56(c) more than three months prior to the filing date of the Information Disclosure Statement.						

Attorney Docket Number: IMMR092/02US Application Serial No.: 10/072,728

Page 3

It is respectfully requested that the Examiner consider the above-noted information and return an initialed copy of the attached Form PTO/SB/08A to the undersigned.

Dated: <u>July 9, 2004</u>

Cooley Godward LLP. ATTN: Patent Group One Freedom Square Reston Town Center 11951 Freedom Drive Reston, VA 20190-5656

Tel: (703) 456-8000 Fax: (703) 456-8100 Respectfully submitted, COOLEY GODWARD LLP

By:

Erik B. Milch Reg. No. 42,887

211198 v1/RE 4\$YM01!.DOC (1 of 2)

PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Application Number 10/072,728

Filing Date February 7, 2002

First Named Inventor Chester L. Schuler

Art Unit 2675

Examiner Name Ming-Hun Liu

Complete if Known

(use as many sheets as necessary)

Substitute for form 1449A/PTO

Sheet 1 of 3 Attorney Docket Number IMMR092/02US

			U.S. PATENT DOC	UMENTS	
		Document Number			
Examiner	Cite No. ¹	Number Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		6,160,489	12/12/2000	Perry et al.	
		6,111,577	8/29/2000	Zilles et al.	
		5,690,582	11/25/1997	Ulrich et al.	
		5,575,761	11/19/1996	Hajianpour	<u> </u>
		5,437,607	8/1/1995	Taylor	
		5,436,622	7/25/1995	Gutman et al.	
		5,283,970	2/8/1994	Aigner	
		5,175,459	12/29/1992	Danial et al.	
		5,165,897	11/24/1992	Johnson	
		5,022,384	6/11/1991	Freels	
		4,885,565	12/5/1989	Embach	
		4,484,191	11/20/1984	Vavra	
		4,464,117	8/7/1984	Foerst	
		4,333,070	6/1/1982	Barnes	
		4,262,549	4/21/1981	Schwellenbach	
		4,127,752	11/28/1978	Lowthorp	
		2,972,140	2/14/1961	Hirsch	
		4,939,594	7/3/1990	Moxon	
		5,889,670	3/30/1999	Schuler	
		4,685,003	8/4/1987	Westland	
		4,560,983	12/24/1985	Williams	
		4,859,922	8/22/1989	Tauchenitz et al.	
		5,191,320	3/2/1993	MacKay	
		5,187,630	2/16/1993	MacKay	
		4,652,805	3/24/1987	Kohn	
		4,553,080	11/12/1985	Cannon	

Examiner Initials*	Cite No.1	Foreign Patent Document				Name of Patentee or	Pages, Columns, Lines,	
		Country Code ³	Number ⁴	Kin	d Code ^s (if known)	Publication Date MM-DD-YYYY	Applicant of Cited Document	Where Relevant Passages or Relevant Figures Appear
		GB	2 016 225			9/19/1979	Ricoh Company	

Examiner Signature	Date Considered	

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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Kind Codes of U.S. Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

PTO/SB/08A (10-01)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Substitute	e for form 1449A/PTC)			Complete if Known
•				Application Number	10/072,728
INFO	RMATION	DIS	CLOSURE	Filing Date	February 7, 2002
STAT	TEMENT B	Y A	PPLICANT	First Named Inventor	Chester L. Schuler
				Art Unit	2675
	(use as many she	ets as	necessary)	Examiner Name	Ming-Hun Liu
Sheet	2	of	3	Attorney Docket Number	IMMR092/02US

		OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS	
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
		PATRICK, "Design, Construction, and Testing of a Fingertip Tactile Display for Interaction with Virtual and Remote Environments," <i>Master of Science Thesis</i> , MIT, Aug. 1990, archived Nov. 8, 1990.	
		CALDER, "Design of A Force-Feedback Touch-Introducing Actuator For Teleoperator Robot Control," Bachelor of Science Thesis, MIT, May 1983, archived June 23, 1983.	
		WIKER, "Teletouch Display Development: Phase 1 Report," <i>Technical Report 1230</i> , Naval Ocean Systems Center, San Diego, July 1988.	
		BLISS, "Optical-to-Tactile Image Conversion for the Blind," <i>IEEE Transactions on Man-Machine Systems</i> , Vol. MMS-11, No. 1, March 1970.	
		JOHNSON, "Shape-Memory Alloy Tactile Feedback Actuator," Armstrong Aerospace Medical Research Laboratory, AAMRL-TR-90-039, August, 1990.	
		KONTARINIS et al., "Tactile Display of Vibratory Information in Teleoperation and Virtual Environments," PRESENCE, 4(4):387-402, Harvard Univ., 1995.	
		AUKSTAKALNIS et al., "Silicon Mirage: The Art and Science of Virtual Reality," ISBN 0-938151-82-7, pp. 129-180, 1992.	
		EBERHARDT et al., "Inducing Dynamic Haptic Perception by The Hand: System Description and Some Results," DSC-Vol. 55-1, <i>Dynamic Systems and Control</i> : Volume 1, ASME 1994.	
		GOBEL et al., "Tactile Feedback Applied to Computer Mice," International Journal of Human-Computer Interaction, Vol. 7, No. 1, pp. 1-24, 1995.	
		PIMENTEL et al., "Virtual Reality: through the new looking glass," 2 nd Edition; McGraw-Hill, ISBN 0-07-050167-X, pp. 41-202, 1994.	
		"Cyberman Technical Specification," Logitech Cyberman SWIFT Supplement to Logitech Mouse Technical Reference and Programming Guide, 4/5/1994.	
		OUHYOUNG et al., "The Development of A Low-Cost Force Feedback Joystick and Its Use in the Virtual Reality Environment," Proceedings of the Third Pacific Conference on Computer Graphics and Applications, Pacific Graphics '95, Seoul, Korea, 21-24 August 1995.	
		KACZMAREK et al., "Tactile Displays," Virtual Environment Technologies, Chap. 9, pp. 349-414.	
		LAKE, "Cyberman from Logitech," at http://www.ibiblio.org/GameBytes/issue21/greviews/cyberman.html, 1994.	
		YAMAKITA et al., "Tele-Virtual Reality of Dynamic Mechanical Model," Proceedings of the 1992 IEEE/RSJ International Conference on Intelligent Robots and Systems, Raleigh, NC, July 7-10, 1992	

Examiner	Date	
Signature	 Considered	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

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(1 of 2)

PTO/SB/08A (10-01)

Approved for use through 10/31/2002, OMB 0651-0031 U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Substitute	e for form 1449A/PTC	o		Complete if Known			
				Application Number	10/072,728		
INFC	RMATION	DIS	CLOSURE	Filing Date	February 7, 2002		
STA	TEMENT B	Y A	PPLICANT	First Named Inventor	Chester L. Schuler		
				Art Unit	2675		
(use as many sheets as necessary)				Examiner Name	Ming-Hun Liu		
Sheet	3	of	3	Attorney Docket Number	IMMR092/02US		

OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS						
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.				
NOLL, "Man-Machine Tactile," SID Journal, July/August 1972 Issue.						
	ROSENBERG, "Virtual Fixtures: Perceptual Overlays Enhance Operator Performance In Telepresence Tasks," Ph.D. Dissertation, Stanford University, June 1994.					

Examiner	 Date	
Signature	Considered	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

bstitute for form 1449A/PTO

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11

Complete if Known				
Application Number	10/072,728	-		
Filing Date	February 7, 2002			
First Named Inventor	Chester L. Schuler			
Art Unit	2675			
Examiner Name	Ming Hun Liu			
Attorney Docket Number	IMMR092/02US			

			U.S. PATENT DOC	UMENTS	
		Document Number			
Examiner	Cite No.1	Number Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		3,765,624	10-1973	Kaniuka	
_		3,875,488	04-01-1975	Crocker et al.	
		3,923,166	12-1975	Fletcher et al.	
		4,050,265	09-1977	Drennen et al.	
		4,206,891	06-1980	Perez et al.	
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		4,398,889	08-16-1983	Lam et al.	
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		4,426,607	01-1984	Black et al.	
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		4,538,035	08-27-1995	Pool	
		4,538,188	08-1985	Barker et al.	
		4,604,016	08-05-1986	Joyce	
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		4,706,294	11-10-1987	Ouchida	
		4,729,044	03-1998	Kiesel	
		4,795,296	01-03-1989	Jau	
		4,800,721	01-31-1989	Cemenska et al.	
		4,803,413	02-07-1989	Kendig et al.	
		4,837,734	06-06-1989	Ichikawa et al.	
		4,853,874	08-01-1989	Iwamoto et al.	
		4,857,816	08-1989	Rogozinski et al.	
		4,861,269	08-1989	Meenan, Jr.	
		4,896,554	01-30-1990	Culver	
		4,907,970	03-13-1990	Meenen, Jr.	
		4,937,685	06-1990	Barker et al.	
		4,939,594	07-1990	Moxon et al.	
		4,943,866	07-1990	Barker et al.	
		4,949,119	08-14-1990	Moncrief et al.	
		4,949,193	08-1990	Klessel	
		4,961,038	10-02-1990	MacMinn	
	-	4,964,004	10-1990	Barker	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Date Considered

¹ Applicant's unique citation designation number (optional). ² Kind Codes of U.S. Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the Indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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PTO/SB/08A (10-01)

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Substitute for form 1449A/PTO Complete if Known **Application Number** 10/072,728 INFORMATION DISCLOSURE Filing Date February 7, 2002 STATEMENT BY APPLICANT **First Named Inventor** Chester L. Schuler 2675 Art Unit (use as many sheets as necessary) Examiner Name Ming Hun Liu IMMR092/02US Sheet Attorney Docket Number

Sheet			Attorney Doca	Ret Number 11VIIVIT (032)	
			U.S. PATENT DOCL	JMENTS	
	Γ''''	Document Number			
Examiner	Cite No.¹	Number Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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Examiner Signature	Date Considered	
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Complete if Known Substitute for form 1449A/PTO 10/072,728 **Application Number** INFORMATION DISCLOSURE **Filing Date** February 7, 2002 STATEMENT BY APPLICANT Chester L. Schuler **First Named Inventor** Art Unit 2675 (use as many sheets as necessary) Examiner Name Ming Hun Liu

Sheet	3		of	11		Attorney Doo	ket Number	IMMR092	/02US
					U.S. P	ATENT DOC	UMENTS		
		Document	t Numbe	er					
Examiner	Cite No.1	· · · · · · ·		le² (if known)		blication Date M-DD-YYYY	Name of Pa Applicant of Cit		Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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Substitute for form 1449A/PTO					Complete if Known	
				Application Number	10/072,728	
INFO	RMATION	DIS	CLOSURE	Filing Date	February 7, 2002	
STA	TEMENT B'	YA	PPLICANT	First Named Inventor	Chester L. Schuler	
				Art Unit	2675	
	(use as many she	ets as	necessary)	Examiner Name	Ming Hun Liu	
Sheet	4	of	11	Attorney Docket Number	IMMR092/02US	

			U.S. PATENT DOC	UMENTS	
		Document Number			
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Cuamine:	Cite No. ¹	Foreign Patent Document				Name of Patentee or	Pages, Columns, Lines,
Examiner Initials*		Country Code ³	Number ⁴	Kind Code ⁸ (if known)	Publication Date MM-DD-YYYY	Applicant of Cited Document	Where Relevant Passages or Relevant Figures Appear
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Substitute	Substitute for form 1449A/PTO			Complete if Known	
		Application Number	10/072,728		
INFO	RMATION	DIS	CLOSURE	Filing Date	February 7, 2002
	STATEMENT BY APPLICANT			First Named Inventor	Chester L. Schuler
OIA				Art Unit	2675
(use as many sheets as necessary)			necessary)	Examiner Name	Ming Hun Liu
Sheet	6	of	11	Attorney Docket Number	IMMR092/02US

		OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS	
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
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Examiner	Date	
Signature	Considered	

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INFORMATION DISCLOSURE				Filing Date	February 7, 2002			
STAT	TEMENT B	Y AI	PPLICANT	First Named Inventor Chester L. Schuler				
				Art Unit	2675			
(use as many sheets as necessary)			necessary)	Examiner Name	Ming Hun Liu			
Sheet	7	of	11	Attorney Docket Number	IMMR092/02US			

		OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS	
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INFORMATION DISCLOSURE				Filing Date	February 7, 2002			
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				Art Unit	2675			
	(use as many she	ets as	necessary)	Examiner Name	Ming Hun Liu			
Sheet	8	of	11	Attorney Docket Number	IMMR092/02US			

		OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS
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Substitute	e for form 1449A/i	то			Complete if Known	
				Application Number	10/072,728	
INFO	RMATIO	N DIS	CLOSURE	Filing Date	February 7, 2002	
STAT	STATEMENT BY APPLICANT		First Named Inventor	Chester L. Schuler		
• • • • • • • • • • • • • • • • • • • •				Art Unit	2675	
	(use as many	sheets as	necessary)	Examiner Name	Ming Hun Liu	
Sheet	9	of	11	Attorney Docket Number	IMMR092/02US	

		OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS
Examiner	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
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Signature	Considered	

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Sheet	10	of	11	Attorney Docket Number	IMMR092/02US			

		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
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